

### REMARKS

[0010] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 1-14 and 44 are currently pending
- Claims 4 and 5 are canceled herein
- Claims 15-43 are withdrawn herein
- Claims 1, 6, 11 and 44 are amended herein
- No new claims are added herein

[0011] Claim 1 is amended to include subject matter from dependent claims 4 and 5. Support for the amendments to claims 1, 6, 11 and 44 is found in the specification at least at p. 3 lines 5-7, p. 10 lines 3-15 and p. 12 lines 13-14.

### Cited Documents

[0012] The following documents have been applied to reject one or more claims of the Application:

- ***Graupner: Graupner, et al.***, U.S. Patent No. **7,035,930**
- ***Abu El Ata: Abu El Ata***, U.S. Patent No. **6,311,144**

**Claims 1-14 and 44 Are Non-Obvious Over Graupner in view of Abu El Ata**

**[0013]** Claims 1-14 and 44 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over *Graupner in view of Abu El Ata*. Applicant respectfully traverses the rejection.

**Independent Claim 1**

**[0014]** Applicant submits that the Office has not made a *prima facie* showing that independent claim 1 is obvious in view of Graupner and in further view of Abu El Ata. Applicant submits that neither Graupner nor Abu El Ata teach or suggest the following features of this claim, as amended (with emphasis added):

- receiving, by a system validation computing device configured to facilitate validation of a system being designed prior to attempting to deploy the system, a **description of the system being designed to be used in an environment of a data center but not yet deployed to the data center;**
- receiving, by the system validation computing device, a description of an environment that simulates a target-deployment environment, **wherein the target-deployment environment is the data center in which the system is to be deployed;**

**[0015]** Claim 1 recites in part, “a description of the system being designed to be used in an environment of a data center but not yet deployed to the data center.” The Office cites Abu El Ata (Col. 3, lines 39-45) as teaching this element. (Office Action, p. 3). Abu El Ata describes, “a method and system for designing an information system for a use in an organization. The system receives descriptive input about a prospective information system to be designed, validates this information, then transforms the descriptive input into quantitative input which is used to construct one or more models of an information system.”

**[0016]** The Office is equating “designed to be used in an environment of a data center” as recited in claim 1 with “designing an information system for a use in an organization,” as described by Abu El Ata. Applicant submits that these two environments are not the same. By looking at p. 2 lines 2-5 of the Application, the Office can get a better sense of the claim “data center” by seeing it described as going “by the names of ‘Webfarms’ or ‘server farms’, typically house hundreds to thousands of computers in climate-controlled, physically secure buildings. Data centers typically provide reliable Internet access, reliable power supplies, and a secure operating environment,” (p. 2 lines 2-5). The “organization” of Abu El Ata is described as, “a business organization, such as an academic, nonprofit, or other types of organizations.”

**[0017]** Claim 1 also recites in part, “wherein the target-deployment environment is the data center in which the system is to be deployed.” This portion of Claim 1 is amended to include subject matter from dependent claim 5. The Office cites

Graupner (Col. 4, lines 25-29) as teaching this element. (Office Action, p. 8). Graupner teaches, “the model description describes the elements that are used as input data in simulations for purposes of prediction or evaluation of possible deployment solutions. The framework contains a discrete-event-based simulation engine. Input data to the simulation engine is partially provided by model descriptions.”

**[0018]** The Office is equating the “deployment” as recited in claim 1 with the “deployment solutions” of Graupner. As claim 1 recites, “the target-deployment environment is the data center in which the system is to be deployed”, the “simulation” of Graupner “simulates for purposes of prediction or evaluation of possible deployment solutions.” Graupner teaches, “(a) method and framework for identifying optimal allocations of computing resources....the invention generates optimized mappings,” (Graupner, abstract). It is argued that simulating optimized deployment and generating optimized deployment mappings is not the same as actually deploying. It is the difference between studying the best way to go from point A to point B on a map, and actually making the trip.

**[0019]** Consequently, Graupner and Abu El Ata do not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

### Dependent Claims 2 and 3

[0020] Claims 2 and 3 ultimately depend from independent claim 1. As discussed above, claim 1 is allowable over the cited documents. Therefore, claims 2 and 3 are also allowable over the cited documents of record for at least their dependency from an allowable base claim. These claims may also be allowable for the additional features that each recites.

### Independent Claim 6

[0021] Applicant submits that the Office has not made a *prima facie* showing that independent claim 6 is obvious in view of Graupner and in further view of Abu El Ata. Applicant submits that neither Graupner nor Abu El Ata teach or suggest the following features of this claim, as amended (with emphasis added):

- accessing an application description that describes an **application in the process of being designed to be used in an environment of a data center**, by a program running on the one or more processors; and
- validating the application, using the application description, against a simulated environment, **the environment comprising a description of the data center and prior to deployment to the data center.**

**[0022]** Claim 6 recites in part, “an application in the process of being designed to be used in an environment of a data center.” The Office cites Graupner (Col. 2, lines 65 – Col. 3, line 1) as teaching this element. (Office Action, p. 4). Graupner describes, “service domain 102 refers to the model layers that describe the services provided by the software application and the software components that provide the services. Server domain 104 refers to the model layers that describe the hardware that executes the software components in the service domain.”

**[0023]** The Office equates “an application description that describes an application in the process of being designed,” as recited in claim 6, with “model layers that describe services provided by the software application,” of Graupner. A “description of an application” as claim 6 recites, is not the same as description of “services provided by software” as taught by Graupner.

**[0024]** Claim 6 also recites in part, “validating the application, using the application description, against a simulated environment, the environment comprising a description of the data center and prior to deployment to the data center.” The Office cites Graupner (Col 10, lines 60 – Col 11, line 1) as teaching this element. (Office Action, p. 4). Graupner describes, “1. Generate a possible solution; 2. Evaluate the solution according to constraints and an optimization goal or policy; a “better” solution returns a higher value from the evaluation by a objective function; 3. If the evaluated solution is better than prior solutions,

replace the worst solution in the solution pool with the generated solution; 4. Repeat until some termination criteria applies.

**[0025]** The Office seems to be equating “validating the application” as recited in claim 6 with the “generate.. evaluate.. replace.. and repeat” steps of Graupner. It must be restated that Graupner teaches “methods and framework for generating an optimized deployment of software applications,” (Graupner, title). The steps of Graupner are for “generating optimized deployment.” The recitation of claim 6 is instead directed towards “validating the application.....prior to deployment.”

**[0026]** Consequently, the combination of Graupner and Abu El Ata does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

#### Dependent Claims 7 - 10

**[0027]** Claims 7-10 ultimately depend from independent claim 6. As discussed above, claim 6 is allowable over the cited documents. Therefore, claims 7-10 are also allowable over the cited documents of record for at least their dependency from an allowable base claim. These claims may also be allowable for the additional features that each recites.

Independent Claim 11

[0028] Applicant submits that the Office has not made a *prima facie* showing that independent claim 11 is obvious in view of Graupner and in further view of Abu El Ata. Applicant submits that neither Graupner nor Abu El Ata teach or suggest the following features of this claim, as amended (with emphasis added):

- An apparatus for facilitating validation of **a software application being designed to be used in an environment of a data center and prior to attempting to deploy the software application to one area of the data center,**
- a simulator configured to simulate an environment of a data center, **the environment comprising a description of the data center, and validate the software application against the environment prior to deployment to the data center,** and return a result of the validation;

[0029] Claim 11 recites in part, “a software application being designed to be used in an environment of a data center and prior to attempting to deploy the software application to one area of the data center.” The Office fails to cite a reference as teaching this element found in the preamble of claim 11. (Office Action, page 4).



**[0030]** Claim 11 further recited in part, “the environment comprising a description of the data center, and validate the software application against the environment prior to deployment to the data center.” The Office cites Graupner (Col. 4, lines 39-50) as teaching this element. (Office Action, p. 4). Graupner describes, “The processing in a node is simulated with a time delay that simulates the processing performed by the node and expires when the node generates traffic. The traffic from the node is passed through outbounds links to further nodes. The time delay and output traffic parameters are derived from the processing capacity parameter specified in the model description of that node. This simplification avoids further assertions of parameters for nodes and links specifying their behavior in more detail. However, if more accuracy is required, additional parameters for time delays, processing times, and distribution of output traffic can be included in model descriptions.”

**[0031]** The Office equates “validate the software application against the environment,” of claim 11 with “simulates the processing” of Graupner. Once again it can be restated, claim 11 recites “validate the software application against the environment prior to deployment.” The “validate” is directed towards “the software” and not the deployment of the software, as it occurs, “prior to deployment.” Graupner is directed towards “generating an optimized deployment of software applications,” (Graupner, Abstract).

[0032] Consequently, the combination of Graupner and Abu El Ata does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

Dependent Claims 12-14

[0033] Claims 12-14 ultimately depend from independent claim 11. As discussed above, claim 11 is allowable over the cited documents. Therefore, claims 12-14 are also allowable over the cited documents of record for at least their dependency from an allowable base claim. These claims may also be allowable for the additional features that each recites.

Independent Claim 44

[0034] Applicant submits that the Office has not made a *prima facie* showing that independent claim 44 is obvious in view of Graupner and in further view of Abu El Ata. Applicant submits that neither Graupner nor Abu El Ata teach or suggest the following features of this claim, as amended (with emphasis added):

- An apparatus for facilitating validation of a software application being designed **to be used in an environment of a data center and prior to attempting to deploy the software application to one area of the data center,**

- a simulator configured to simulate an environment of a data center, **the environment comprising a description of the data center, to validate the software application against the environment prior to deployment to the data center,**

**[0035]** Claim 44 recites in part, “to be used in an environment of a data center and prior to attempting to deploy the software application to one area of the data center.” The Office fails to cite a reference as teaching this element as found in the preamble of claim 44. (Office Action, page 6).

**[0036]** Claim 44 goes on to recite, “the environment comprising a description of the data center, to validate the software application against the environment prior to deployment to the data center.” The Office cites Graupner (Col. 4 lines 39-50) as teaching this element. (Office Action, p. 6). Graupner describes, “The processing in a node is simulated with a time delay that simulates the processing performed by the node and expires when the node generates traffic. The traffic from the node is passed through outbounds links to further nodes. The time delay and output traffic parameters are derived from the processing capacity parameter specified in the model description of that node. This simplification avoids further assertions of parameters for nodes and links specifying their behavior in more detail. However, if more accuracy is required, additional parameters for time delays, processing times, and distribution of output traffic can be included in model descriptions.

**[0037]** The Office equates “simulate an environment of a data center...to validate the software application against the environment,” of claim 11 with “simulates the processing” of Graupner. Once again it can be restated, claim 44 recites “simulate an environment...to validate the software application against the environment prior to deployment.” The “validate” is directed towards “the software application” and not the deployment of the software application, as it occurs, “prior to deployment.” Graupner is directed towards “generating an optimized deployment of software applications,” (Graupner, Abstract).

**[0038]** Consequently, the combination of Graupner and Abu El Ata does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

### **Conclusion**

**[0039]** Applicant submits that all pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Examiner is urged to contact the undersigned representative for the Applicant before issuing a subsequent Action.

Respectfully Submitted,

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